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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHIHIRO MANRI, SATOSHI MITSUYAMA, TOMONORI MIMURA, and KUMIKO KAMIHARA[1]

Appeal 2016-003698
Application 13/641,881
Technology Center 1600

Before DONALD E. ADAMS, JEFFREY N. FREDMAN, and JOHN G. NEW, *Administrative Patent Judges.*

NEW, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1]Appellants state that the real party-in-interest is Hitachi High-Technologies Corporation. App. Br. 1.

SUMMARY

Appellants file this appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–14 as unpatentable under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

NATURE OF THE CLAIMED INVENTION

Appellants' invention is directed to a technique for automatically determining or predicting a line range specific to a sample that appears in a reaction curve in an automated analyzer for mixing a specimen and a reagent and measuring a change in a mixture of the specimen and the reagent with time. Abstract.

REPRESENTATIVE CLAIM

Claim 1 is representative of the claims on appeal and recites:

> 1. An automated analyzer for mixing a specimen and a reagent and measuring a change in a mixture of the specimen and the reagent with time, comprising:
>
> an absorption detection mechanism configured to detect degrees of absorption related to mixing of the specimen and the reagent and to output a reaction curve of the specimen and the reagent based on the detected degrees of absorption;
>
> a measurement point data acquisition unit which acquires a plurality of measurement point data from the reaction curve of the specimen and the reagent;
>
> a data processing unit which processes the measurement point data;

> a storage unit which stores a first approximation formula used by the data processing unit; and
>
> an output unit which outputs a processing result from the data processing unit, wherein the data processing unit causes the first approximation formula stored in the storage unit, which approaches a straight line to approximate the plurality of measurement point data, calculates a straight line which is approached by a second approximation formula that is obtained as a result of the approximation, sets a time when a difference between the straight line and the second approximation formula falls below a reference value or a difference between a slope of the straight line and a slope of the second approximation formula falls below a reference value as a start time of line, and determines a line range of the reaction curve.

App. Br. 26.

ISSUES AND ANALYSES

We adopt the Examiner's findings of fact and conclusion that the appealed claims are directed to non-statutory subject matter. We address the arguments raised by Appellants below.

Issue

Appellants argue that the Examiner erred because claim 1 is directed to a tangible structure, i.e., an automated analyzer for mixing a specimen and a reagent and measuring a change in a mixture of the specimen and the reagent with time to determine a line range of the reaction curve and, therefore, is not directed to an abstract idea. App. Br. 11.

Analysis

The Examiner finds that claim 1 is directed to the abstract idea of analyzing a change in a mixture of a specimen and a reagent using computational means. Final Act. 2. The Examiner finds that the additional elements or combination of elements in the claims, other than the abstract idea, amounts to no more than recitation of a generic computer structure that serves to perform generic computer functions that are well understood, routine, and conventional activities previously known to the pertinent industry. *Id.* at 2–3. The Examiner further finds that claim 1 includes acquiring data, which the Examiner finds constitutes only data gathering steps. *Id.* at 3. The Examiner concludes that, viewed as a whole, the additional claim elements do not provide meaningful limitations to transform the abstract idea into a patent-eligible application of the abstract idea such that the claims amount to significantly more than the abstract idea itself. *Id.*

Appellants argue that their claimed invention is not directed to an abstract idea such as a "fundamental economic practice" or a "longstanding commercial practice." App. Br. 11 (citing ideas. *Alice Corp. v. CLS Bank Int'l*, 134 S.Ct. 2347, 2354 (2014); *Bilski v. Kappos*, 561 U.S. 593, 599 (2010)). Nor is it directed to, Appellants argue, "[a]n idea of itself," nor a mathematical relationship/formula. *Id.* (citing *Gottschalk v. Benson*, 409 U.S. 63, 64-67 (1972); *Parker v. Flook*, 437 U.S. 584, 594-595 (1978)). Rather, Appellants argue, claim 1 is directed only partially to what could be argued to be an abstract concept, which is insufficient to render an invention patent ineligible. *Id.* at 12.

We do not agree. Appellants' claim 1 recites a device (i.e., an automated analyzer) and is therefore directed, at least nominally, to a

category of patentable subject matter. *See* 35 U.S.C. § 101. However, Appellants' claim 1 recites, as part of the claimed invention:

> [W]herein the data processing unit causes the first approximation formula stored in the storage unit, which approaches a straight line to approximate the plurality of measurement point data, calculates a straight line which is approached by a second approximation formula that is obtained as a result of the approximation, sets a time when a difference between the straight line and the second approximation formula falls below a reference value or a difference between a slope of the straight line and a slope of the second approximation formula falls below a reference value as a start time of line, and determines a line range of the reaction curve.

Claim 1, then, is directed to calculating the data acquired by the automated analyzer in the preceding steps in accordance with certain algorithms stored in the data processing unit. As such, claim 1 is directed, at least in part, to the processing of input data to achieve a certain output of data, i.e., to an abstract idea, and is therefore directed, in part, to one of the judicially-created exceptions to Section 101. *See Mayo Collaborative Servcs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) ("Phenomena of nature, … mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work" (quoting *Gottschalk*, 409 U.S. at 67)). Further, "simply implementing a mathematical principle on a physical machine, namely a[n autoanalyzer, is] not a patentable application of that principle." *Id.* 566 U.S. at 84.

Having determined that claim 1, considered as a whole, is directed in part to a judicial exception to Section 101, we then analyze the claim to see whether the elements of claim 1, both individually and "as an ordered

combination," "transform the nature of the claim" into a patent-eligible application. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1375 (2015) (quoting *Mayo*, 566 U.S. at 79. The Supreme Court has described the second step of this analysis as a search for an "inventive concept"—i.e., an element or combination of elements that is "sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself." *Id.*

We conclude that the remaining limitations of claim 1 do not add significantly more than the recited abstract idea so as to render the claim directed to patent-eligible subject matter. The remaining limitations of claim 1 recite: (1) an absorption detection mechanism configured to detect degrees of absorption related to mixing of the specimen and the reagent and to output a reaction curve of the specimen and the reagent based on the detected degrees of absorption; (2) a measurement point data acquisition unit which acquires a plurality of measurement point data from the reaction curve of the specimen and the reagent; and (3) a data processing unit which processes the measurement point data; and (4) a storage unit which stores a first approximation formula used by the data processing unit. Each of these limitations relates to, at best, the collection, manipulation, and display of data, which are abstract processes. *Intellectual Ventures I LLC v. Capital One Financial Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017); *see Digitech Image Techs., LLC v. Elecs. For Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014).

Appellants do not argue that their "automated analyzer" recited in the preamble to claim 1 and depicted in Figure 3 is a novel invention; indeed, such automated analyzers have been well known in the art for decades.

Appellants' Specification admits that it is the processing and storing steps of the claim that constitute the allegedly novel portion of the invention. *See, e.g.*, Spec. ¶ 25 ("The present invention also includes an invention obtained by combining *a known technology* [i.e., an automated analyzer unit] with the system configuration and processing operation") (emphasis added).

Furthermore, the Specification discloses that the recited "data processing unit" and "storage unit" can be no more than a generic personal computer ("PC"). *See, e.g.*, Spec. ¶ 64 ("For example, the processing in Figure 1 can also be executed as a software process to be executed in the computer (PC) 10. Additionally, an internal storage device of the computer (PC) 10 can be used as the storage device 12"); *see also* Spec. Fig. 3. An instruction to apply an abstract idea using an unspecified, generic computer is not enough to transform an abstract idea into a patent-eligible invention. *Alice*, 134 S.Ct. at 2351.

We consequently conclude that the additional limitations of claim 1 do no more than involve "well-understood, routine, conventional activity previously engaged in by researchers in the field" that do not contain an "inventive concept," sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the abstract idea itself. *See Mayo*, 566 U.S. at 72–73. We also note that the abstract idea does not directly improve the operation of the conventional portions of the apparatus because "the focus of the claims is not on such an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools." *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016). We consequently affirm the Examiner's rejection of claim 1.

Appellants rely upon the same arguments with respect to dependent claims 2–13. App. Br. 15–16. These claims all recite limitations that narrow and refine the last calculation step of claim 1. For the same reason, therefore, we affirm the Examiner's rejection of these claims.

Appellants argue claim 14 separately. App. Br. 12. Claim 14 is directed to "a method of using an automated analyzer for detecting a mixture of a specimen and a reagent and measuring a change in that mixture of the specimen and the reagent with time to determine a line range of the reaction curve." *Id.* at 13. For the same reasons we have explained *supra*, we conclude that the limitations of claim 14 do not amount to "significantly more" than the abstract concept of manipulating the collected data to achieve a calculated result. We therefore affirm the Examiner's rejection of claim 14.

DECISION

The Examiner's rejection of claims claims 1–14 as unpatentable under 35 U.S.C. § 101 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED